

Project-Summary

1. Suppose you work for a detective agency and for work purpose you need to communicate with your teammates using some different scheme so that it cannot be detected, and you don't have efficient communicating device as well. You need to state your statement using this array "HEEEDWARAAVJOOUUMNCLF", but system efficiency is also a matter of concern. You must transform that array into a meaningful sentence and required frequency need to be chosen for transferring your statement to your teammates. Build a program that can perform that communication.

2. You are a participant of an adventure game and there are different rooms where one flag is hidden in each room. You have to collect flags from these rooms, and you may choose or skip any room. You cannot go back once you move forward. Each flag is associated with points. Find the flags in a way so that you can achieve maximum points in the game. Consider that, Color array is c which can be any integer and there are flags of 4 colors and six rooms so any two flags will have the same-colored flag.

- You can define the color array as per your choice, array size = 8
- Point array for the flags: {2, 8, 3, 5, 11, 9, 1, 4}
- m & n are two integers that can be positive or negative

Where,

a) m will be taken into calculation if you take a same-colored flag that you already have, and it will be multiplied with the corresponding points.

b) n will be taken into consideration if you take a different-colored flag from the ones you already have, and it will be multiplied with the corresponding points.

3. Annie went to an amusement park with her one-year-old daughter. Somehow Annie lost her daughter and after announcing in the "lost and found" center of the park, the authority got to see there are seven other girls of the similar age to Annie's daughter. There were even other guardians demanding their children but without any strong proof they won't let her to take away

her daughter. DNA testing or biometric anything can be an option. Build a program with necessary algorithms so that Annie can find her daughter.

4. There are thirteen buildings in a colony in a specific order and there can be multiple connectors among the buildings, and you have to color (there are four available colors) each building such that the two adjacent building may not have the same color. Build a program by selecting parameters as per your preference and make sure minimum number of colors are being used.